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## THE EARLY SALT TRADE OF THE OHIO VALLEY

An abundant and pure supply of salt was a matter of great concern to the pioneers west of the Alleghany Mountains. Relatively, this commodity occupied a place of much greater importance then than now. It attracted attention because it was indispensable in the food of man and beast, and because the pioneers were always conscious of the uncertainty of the supply. It was, moreover, essential for the preservation of meat, and salted meat was one of the greatest staples of the agricultural interior. The first settlers labored diligently to discover springs and to establish the manufacture of salt, the scarcity of which often caused them great hardships.<sup>1</sup>

On account of its importance, this commodity exercised a considerable influence in several directions. The effect upon the policy of both the federal and state governments was notable. For years saline springs were reserved from sale, together with several adjacent sections of woodland which were to furnish fuel for the manufacture. In some instances the treaties which the federal government made with the Indians at the time of their removal stipulated an annuity of salt.<sup>2</sup> In a few cases the rental of the saline lands formed a considerable part of the revenue of the new states. Again, the income from such sources afforded a convenient asset to pledge as security for loans. At a later date, when the reserves were sold, the proceeds were in some instances devoted to educational purposes. In one case, in the free states of the Ohio Valley, the need of laborers in the salines afforded an exception to the law prohibiting the introduction of slave labor.<sup>3</sup>

<sup>1</sup> C. M. Walker, *History of Athens County, Ohio*, p. 120; S. P. Hildreth, *Pioneer History of Ohio*, p. 405; John Reynolds, *Pioneer History of Illinois*, p. 109; J. L. Bishop, *History of American Manufactures*, I, 278-95.

<sup>2</sup> The treaty with the Miamis in 1818 provided that the United States "will also cause to be delivered annually to the Miami nation 160 bushels of salt." Cf. Senate Doc. No. 452, 1st sess., 57th Cong., p. 121. Also treaty with the Chickasaws, *ibid.*, p. 122.

<sup>3</sup> Cf. *infra*.

In another direction also the influence of salt was felt, namely, in the localization of settlements. Not only were salt springs focal points for colonization, but in several cases the salt trade was an important factor in the industrial development of towns in the neighborhood of the sources. Finally, the commerce and manufacture of the commodity occupied a place of great relative importance in the life of the pioneers.

The foregoing outline simply indicates the directions in which the influence of salt was effective. It might be added that the salines of the interior have an ancient history. Remains formerly found both on and beneath the surface show that the springs have supplied races which may have antedated the Indians, and the roads, sometimes widening into great avenues,<sup>1</sup> made by the wild animals on their way to the "licks" indicate how constantly the sources were sought by these creatures.<sup>2</sup> In many cases the pioneers discovered salt springs by following the beaten paths of the buffalo.<sup>3</sup>

At present, the principal sources of the supply of domestic salt are in Michigan, New York, Kansas, Ohio, and California, these states ranking in the order named.<sup>4</sup> But before 1860 the supply came chiefly from New York, ranking first; from Virginia—the present West Virginia, with Kanawha County the largest and at times the only producer, ranking second; from Pennsylvania—with Allegheny, Westmoreland, and Indiana counties the principal producers, ranking third; and from Ohio, ranking fourth. The springs on the Wabash in Illinois, and those near Ste. Genevieve, Mo., once supplied a wide territory. Many other sources of the interior were worked, principally to supply a local demand.

Before the territory north of the Ohio River was divided into states, the federal government by a number of acts sought to protect and develop the salt resources.<sup>5</sup> This watchfulness was

<sup>1</sup> John Bradbury in Thwaites, *Early Western Travels*, V, 276; J. H. Perkins, *Memoirs*, II, 250.

<sup>2</sup> Capt. Imlay, *Topographical Description of the Western Territory of North America*, etc. (ed. 1793), p. 136; Christopher Gist, *Journal* (ed. Darlington), p. 129.

<sup>3</sup> Imlay, pp. 135-6.

<sup>4</sup> Twelfth Census U.S. Manufactures, IX, Pt. III, 532.

<sup>5</sup> *DeBow's Commercial Review*, XXIII, 359.

prompted partly by the desire to relieve the pioneers of a serious burden, and partly by the fear that the springs would be monopolized and the people oppressed.<sup>1</sup> No doubt, also, many members of Congress believed that the salt springs were a valuable resource and should not be disposed of like ordinary property. In the early years of migration, therefore, the federal government inaugurated the policy of reservation. By an act of May 18, 1796, the United States surveyors were directed to note in their field-books "the true location of all mines, salt licks, salt springs, and mill-seats."<sup>2</sup> Another step in this direction was taken on March 3, 1797, when certain salt lands within the boundary of the present state of Ohio were "reserved for the future disposal of the United States";<sup>3</sup> and an act of March 26, 1804, "making provision for the disposal of public lands in the Indiana territory," provided that "all lands, except section number six of each township which is reserved for the support of schools, and an entire township reserved for the benefit of a seminary of learning," and "with the exception, also, of salt springs and lands reserved for the use of the same," should be offered to the highest bidder.<sup>4</sup>

But the federal government went further and offered encouragement to those who would work the sources. On March 3, 1803, an act was passed which placed \$3,000 at the disposal of the president of the United States for the purpose of developing the springs on the Wabash. The same law, however, permitted the president, if he deemed proper, to lease the reserves, but under the condition that the term should not exceed three years.<sup>5</sup> These citations are sufficient to suggest the estimation in which the salt sources were held and the means employed to protect them. Owing to the rapid influx of population there was every reason to believe that the salines would increase in value, and thus the policy of reservation was continued for a number of years. In this connection, the land commissioner of the United States, writing to an agent at Jefferson-

<sup>1</sup> T. M. Harris, *Journal of a Tour*, etc. (ed. 1805), p. 111.

<sup>2</sup> U.S. Statutes at Large (ed. Peters), I, 466. The same law reserved the salt springs near the Scioto River in Ohio from sale.

<sup>3</sup> General Public Acts of Congress respecting the Sale of Public Lands (1838), pp. 51-52.

<sup>4</sup> *Ibid.*, I, 99.

<sup>5</sup> *Ibid.*, I, 99.

ville, Ind., said: "Salt springs that we now consider not worth working may be found very valuable when the population increases; therefore it is advisable to retain them as public property."<sup>1</sup>

While the federal government was thus caring for the sources, the people of the interior displayed similar concern. As indicating their attitude we may take a petition of the territorial convention at Vincennes in 1802. Said this document:

Your memorialists further beg leave to represent that one of the most indispensable articles of life (salt) is very scarce and difficult to be obtained; that for want of a sufficient number of salt springs in their country that difficulty must increase with the population, and if effectual methods are not taken to secure timber in the neighborhood of the salt springs from being wilfully or carelessly wasted and destroyed, they will in a very few years indeed be utterly destitute of that very valuable article. . . . Your memorialists, therefore, humbly beg the Congress of the United States to extend their bounty to this territory . . . and vest the said springs in the legislature of the territory as soon as it is formed. . . .<sup>2</sup>

When the states north of the Ohio were admitted to the Union, Congress placed the responsibility of protecting the saline springs on the new governments. Some of the sources were offered to the commonwealths, but under certain conditions. The most interesting of these were that the lands should "never" be sold, and that they should not be leased "for a longer period than ten years at any one time."<sup>3</sup> The acceptance of these terms guaranteed to the people at least a moderate amount of protection for their resources. The enabling acts of all these states contain a clause relating to salt springs. These laws differ in wording, but their general provisions were the same, and we may take as an example Section 6 of the enabling act of Illinois, approved April 18, 1818. This section submitted to the convention "for their free acceptance or rejection . . . that all salt springs within said state and the land reserved for the use of the same shall be granted to the said state, and the same to be used under such terms and conditions as the legislature of said state shall direct; Provided, The legislature shall never sell nor lease the same for a longer period than ten

<sup>1</sup> General Public Acts of Congress, II, 286.

<sup>2</sup> *Indiana Historical Society Publications*, II, 465.

<sup>3</sup> Cf. *infra*.

years at any one time."<sup>1</sup> An act of April 30, 1802, offered to Ohio "the six-mile reservation, including the salt springs commonly called the Scioto Salt Springs, the salt springs near the Muskingum River and in the military tract, with the sections of land which include the same."<sup>2</sup> The enabling act of Missouri approved March 6, 1820, tendered to this state "all the salt springs, not exceeding twelve in number, with six sections of land adjoining to each."<sup>3</sup> At the time of the adoption of the first constitutions these gifts were accepted in the terms in which they were offered.<sup>4</sup> Thereby, provision was made in a general way to continue the federal policy of protection and development. The total amount of saline land donated to these states up to 1854, according to a report of the secretary of the interior, was 214,965 acres, distributed as follows: to Ohio 24,216 acres; to Indiana 23,040 acres; to Illinois 121,629 acres; and to Missouri 46,080 acres.<sup>5</sup> No grants were made to Kentucky, nor did any federal law of the description above indicated apply to that state. This was probably due to the fact that immediately prior to her admission to the Union in 1792 Kentucky had been a part of Virginia.

These donations were valuable not only because the states were enabled thereby to manage their own saline resources,<sup>6</sup> but also because the rental was in some instances an important source of revenue, and because the sale of the land at a later date provided a considerable fund for the purposes of education. In Illinois, for example, the first governors paid great attention to the exploitation of the salt resources. The legislature passed a law on March 4, 1819, authorizing the executive to lease any quantity of public land, not exceeding one section, on which salt water had been discovered, to prospective manufacturers of salt "on such terms

<sup>1</sup> U.S. Statutes at Large, III, 430.

<sup>2</sup> *Ibid.*, II, 175.

<sup>3</sup> *Ibid.*, III, 547. For Indiana cf. General Public Acts of Congress, I, 267, 321.

<sup>4</sup> B. P. Poore, *The Federal and State Constitutions*, I, 438, 499; II, 1118.

<sup>5</sup> House Exec. Doc. No. 52, 1st sess., 33d Cong., p. 2. Also 23,040 acres were granted to Alabama, and 46,080 each to Michigan, Florida, Arkansas, and Iowa. The total grant to all the states for salines up to 1854 was 422,325.

<sup>6</sup> The policy of reservation was not a benefit in all cases. Sometimes it retarded development. Cf. *Missouri Advocate* and *St. Louis Enquirer*, August 20, 1825.

as were conducive to the public interest.”<sup>1</sup> It was customary to make such grants free of rent for four or five or even for ten years, provided the lessees agreed to dig a certain number of feet for salt water.<sup>2</sup> In the case of Illinois, however, it would be a mistake to suppose that the governors were interested entirely in supplying the people with salt. They were anxious, also, to obtain as large a revenue as possible, and saw in the saline resources a means to this end. The rental of the so-called Ohio saline in Illinois in 1819 amounted to \$9,600 annually. This sum was equivalent to more than one-third the yearly expenditure of the state in 1821 and 1822, including the civil list, incidental expenses, and special appropriations.<sup>3</sup> The great importance of the salt springs of Illinois as a source of revenue is indicated also by the fact that when, in 1819, the General Assembly authorized a loan of \$25,000, the proceeds of the Ohio saline were particularly pledged for the payment of the sum.<sup>4</sup> The attitude of the people of this state toward the supply of salt is brought out in another connection. Lest the manufacturers should want for laborers, provision was made in the first constitution that “no person bound to labor in any other state shall be hired to labor in this state, except within the tract reserved for the salt works near Shawneetown; nor even at that place for a longer period than one year at any one time; nor shall it be allowed there after the year 1825.”<sup>5</sup> The expiration of this privilege caused the salt-makers considerable hardship,<sup>6</sup> and was one of the factors involved in the decline of the industry in this state.

About 1825, the attitude of the western people in regard to the importance of their salt reserves began to change. Two events were responsible for this. The development of steamboat navigation after 1811 made it possible, on the one hand, to distribute foreign salt brought to New Orleans; on the other hand, the salt

<sup>1</sup> *The Governors' Letter-Books* (Illinois), ed. Greene and Alvord, pp. xxi, 97.

<sup>2</sup> *Ibid.*

<sup>3</sup> *Ibid.*, p. 46.

<sup>4</sup> *Ibid.*, p. 7.

<sup>5</sup> B. P. Poore, *op. cit.*, I, 445; “Territorial Records of Illinois” in *Pub. Ill. State Hist. Library*, No. III, p. 119; N. D. Harris, *History of Negro Servitude in Illinois, passim*.

<sup>6</sup> Judge Hall, *Letters from the West*, p. 233.

industry on the Kanawha River was able to supply a large part of the upper Mississippi Valley. The less productive sources then began to lose their importance. As a result, the states, at various times, sought permission from Congress to dispose of their reserves. This privilege was granted to Ohio in 1824, to Illinois in 1828 and 1831, to Missouri in 1829, and to Indiana in 1832.<sup>1</sup> At this stage in their history the salt lands were again made to play a rôle of considerable importance. The federal law applying to Ohio stipulated that the proceeds of the sale of the saline lands were to be "applied to such literary purposes as said legislature . . . may direct, and to no other use, intent, or purpose whatsoever."<sup>2</sup> Illinois alone of the states under discussion was permitted to use the money derived from the sale of her reserves for other purposes than those of education. Briefly, the proceeds were to be devoted to "such objects as the said legislature may by law hereafter direct."<sup>3</sup> Arrangements were now made in each state for the disposal of the salt lands and for the investment of the returns.<sup>4</sup> In Missouri, provision was made to carry out the federal statute by an act of February 6, 1837, whereby the governor was authorized to invest the principal and interest of the saline fund together with additions made to it from other sources "in some safe and productive stock to be known as the common school fund."<sup>5</sup> In 1840 the saline fund of Missouri amounted to \$45,793.<sup>6</sup> During the two fiscal years ending with 1840 the expenditure from this source for the use of common schools was \$7,335.<sup>7</sup> The proceeds from the sale of the reserves in Ohio amounted to \$41,024, the income from which was used for public schools. The amount

<sup>1</sup> General Public Acts of Congress, I, 401-2, 447, 456, 484, 491; U.S. Statutes at Large, IV, 364, 451.

<sup>2</sup> General Public Acts of Congress, I, 401-2.

<sup>3</sup> *Ibid.*, I, 447, 491. U.S. Statutes at Large, IV, 558.

<sup>4</sup> Statutes of Ohio (ed. S. P. Chase), II, 1465; III, 1522, 1552, 1538. Laws of Indiana 1834-35, pp. 126-27.

<sup>5</sup> Appendix, Journal of the House of Rep. (Missouri), Adjourned Sess., 20th General Assembly, p. 244. A portion of this amount was invested in stock of the Bank of Missouri.

<sup>6</sup> Appendix, Journal of the Senate (Missouri), 1st Sess., 11th General Assembly, pp. 551, 560.

<sup>7</sup> *Ibid.*



received in Indiana was \$89,480, and this, also, was used for the benefit of common schools.<sup>1</sup>

The above discussion has given some idea of the early importance of the salt springs and of the policy adopted by the federal and state governments for the protection and disposal of the sources. But the influence of salt was effective in another direction, namely, in the colonization of the western country and in the localization of settlements. No doubt, in a general way, as the local historians assure us, the scarcity of this commodity was a serious handicap to development. In some respects it retarded settlement. Moreover, the high price of salt endangered the growth of the meat-packing industry.<sup>2</sup> Some pioneers even asserted that the scarcity of the article, which caused farmers to feed it to their cattle in sparing quantities, worked a detriment to the stock.<sup>3</sup> Referring to the influence of salt in Kentucky, Captain Imlay said that "its scarcity and high price in some measure discouraged the settlement of the country";<sup>4</sup> and S. P. Hildreth, writing about Ohio, said: "Salt was a great scarcity and a serious drawback on the prosperity of the country and a source of annoyance to the people."<sup>5</sup> Some idea of the scarcity of this commodity may be obtained from its price. In Ohio, during the years 1790-1800, salt sold for from \$6.00 to \$16.00 per bushel, according to the locality and the season of the year.<sup>6</sup> Joseph Doddridge, referring to western Virginia, testified that he had seen \$12.00 given for a bushel of alum salt, and recollected when it was reduced to \$5.00 because of the improvement of the mountain roads.<sup>7</sup> Even at Pittsburgh, which was one of the most accessible places west of the

<sup>1</sup> *Report Amer. Hist. Assn.*, I, 243.

<sup>2</sup> *DeBow's Commercial Review*, XXIII, 134 f. A writer estimated the loss to the people of the United States due to the use of impure salt at about one million dollars annually. Cf. also *Edwardsville* (Illinois) *Spectator*, January 8, 1822, which asserted that the cause of the relative low price of western meat in eastern markets was due to the use of impure salt.

<sup>3</sup> Cong. Debates, VII, Pt. II, 130; Thwaites, *Early Western Travels*, III, 247; V, 268; Hildreth, p. 406.

<sup>4</sup> Imlay, p. 135.

<sup>5</sup> Hildreth, p. 406.

<sup>6</sup> Walker, p. 120; Hildreth, pp. 405, 409, 260; T. J. Summers, *History of Marietta*, pp. 53, 244; *Western Reserve Hist. Soc. Tract*, No. 30, p. 17.

<sup>7</sup> *Niles' Register*, XLI, 40, Supplement.

mountains, the price before 1800 was from \$8.00 to \$10.00 a bushel.<sup>1</sup> At St. Louis salt sold for \$4.00 a bushel as late as 1808. With reference to this high price, Caleb Atwater, one of the early historians of Ohio, said: "For a farmer to send an ox team 100 miles for a load of salt to the Scioto salt works, where he gave \$3.00 or \$4.00 a bushel for the article, and be on the road one month knee-deep in mud it could not be expected of him to sell it for less than \$6.00 or \$7.00 a bushel on his return home to his neighbors."<sup>2</sup> Many of the pioneers found it far more satisfactory to settle where a supply could be obtained on easier terms. Thus the great need of the commodity together with its scarcity had a strong tendency to attract population to those locations where it could be most readily procured. In some instances the settlements were actually drawn to the neighborhood of the springs where either a good profit could be made from the manufacture, or where the supply would be convenient. Sometimes it was sufficient to settle along the streams which afforded communication with the salt sources.

It is not possible to trace this influence accurately or to weigh it definitely in each particular case because other forces were acting at the same time. Among these were the abundance of game, fertility and attractiveness of the surroundings, healthfulness of the locality, and accessibility. But the presence of salt water was a factor in the first settlement of Bullitt, Jefferson, Nicholas, Mason, Lewis, Henry, Boone, Carter, and other counties in Kentucky; of Muskingum, Jackson, and Jefferson counties in Ohio; of Gallatin and Vermilion counties in Illinois; and of Howard and Ste. Genevieve counties in Missouri.<sup>3</sup> A few towns owed a considerable part of their early prosperity, and of course some additions to their population, to the salt trade originating in their locality. These places were Shawneetown, Ill., Ste. Genevieve, Mo., Zanesville, Ohio, the Blue Licks, Ky., and a few of the towns along the Kanawha in the present West Virginia. The salt traffic of the Allegheny, including that with western New York during the years

<sup>1</sup> G. H. Thurston, *Pittsburgh As It Is*, pp. 98-100.

<sup>2</sup> *History of Ohio* (ed. 1838), p. 168.

<sup>3</sup> Cf. *infra*.

1800 to 1812, and with the Conemaugh and Kiskiminitas after the latter date, added appreciably to the prosperity of Pittsburgh. Historians of Marietta assert that the rumored nearness of salt water was one of the causes which invited settlement at the mouth of the Muskingum.<sup>1</sup>

The reports of John Finlay, John Filson, and Captain Imlay to the effect that salt existed in great abundance in Kentucky did much to encourage settlement. Prospective settlers now received the assurance that they would be spared the burden of an annual trip to the East. Filson stated that "many fine springs constantly emit water, which being manufactured, affords great quantities of fine salt";<sup>2</sup> and Imlay said that the springs of Kentucky alone, under proper management, would be sufficient to produce salt for all the western country.<sup>3</sup> He referred to at least twelve sources between the Big Sandy and the Cumberland. The first salt works in Kentucky were erected at Bullitt's Lick in the present county of the same name.<sup>4</sup> About 1785 Filson stated that this was the only spring "improved." It was of great importance, affording salt enough for the settlers of Kentucky; small quantities were even exported to the Illinois country.<sup>5</sup> According to the geographer Jedidiah Morse, Bullitt's Lick, in 1796, "although in low order, has supplied this country and Cumberland with salt at twenty shillings per bushel and some is exported to Illinois."<sup>6</sup> Before 1800, Mann's Lick, in Jefferson County, was one of the principal sources of supply for the frontier settlements.<sup>7</sup>

Other sources which exerted a great influence on the welfare of the pioneers of Kentucky were the Upper and Lower Blue Licks on Licking River. These springs contained not only common salt, but other mineral ingredients. This water was consumed throughout the West and Southwest as a preventive for certain disorders. The sources were visited annually by hundreds of persons. As one writer informs us, the Blue Licks had a threefold value to the

<sup>1</sup> T. J. Summers, p. 53; J. H. Perkins, II, 376.

<sup>2</sup> John Filson, "Discovery and Settlement," etc., in Imlay, p. 304.

<sup>3</sup> Imlay, p. 135.

<sup>4</sup> L. Collins, *History of Kentucky*, II, 100.

<sup>5</sup> Filson, p. 304.

<sup>6</sup> Collins, II, 100.

<sup>7</sup> *Ibid.*, pp. 20, 370.

first settlers: they supplied them with salt; they were a great medicine chest; and they attracted a great quantity of game.<sup>1</sup> The Upper Blue Licks were discovered by John Finlay and others in 1773. The tract including the springs fell by lot to Finlay and he settled there after the Revolution. It was to the Lower Blue Licks that Daniel Boone with a party of thirty came, in 1778, when the settlers at Boonesborough were in distress for want of salt, to procure a new supply.<sup>2</sup> Boone was captured by the Indians and during the course of his captivity was taken to the Scioto springs which later played an important part in the history of Ohio. On April 15, 1794, "good old Kentucky salt" was advertised for sale in Cincinnati,<sup>3</sup> then a village in the sixth year of its existence. The product was probably brought down the Licking River from the Lower Blue Licks.

The pioneers of Kentucky were also supplied with salt from Drennon's Lick in Henry County, which was once a popular watering-place;<sup>4</sup> from Big Bone Lick in Boone County (noted particularly for the large number of bones of the mammoth found in the vicinity);<sup>5</sup> from Kenton salt wells in Carter County;<sup>6</sup> and from sources at Vanceburg in Lewis County.<sup>7</sup> Nathaniel Massie, a pioneer of Ohio, was once a part owner in salt springs on the Little Sandy. This property was rented about 1799 for 400 bushels of salt.<sup>8</sup> At this time the product was worth at the works from

<sup>1</sup> Perkins, II, 250.

<sup>2</sup> "Adventures of Colonel Daniel Boone," in Imlay, p. 343; E. S. Ellis, *Life and Times of Colonel Boone*, pp. 96-97; Collins, II, 656.

<sup>3</sup> Collins, II, 113. We might infer from Filson's reference to "two fine salt springs where a great plenty of salt may be made" that salt was not manufactured at the Blue Licks in 1784 (cf. p. 286). But salt was made there in 1788, and it was stated that 1,000 gallons were required to produce a bushel of salt. Cf. *Ohio Arch. and Hist. Soc. Pub.*, XV, 201; and "considerable quantities" of salt were produced at the same sources in 1795; cf. *Ohio Arch. and Hist. Soc. Pub.*, XVI, 372.

<sup>4</sup> Imlay, pp. 400-401; Collins, II, 339.

<sup>5</sup> Christopher Gist, *Journal*, p. 129; Thomas Jefferson, *Notes on the State of Virginia* (1832), p. 31; Collins, II, 52; Zadok Cramer in his *Navigator* for 1811, p. 117, said that Mr. Colquhoun, a Scotch gentleman, had two furnaces at these licks which produced 60 bushels daily.

<sup>6</sup> *Kentucky Geol. Survey*, II, 366 (1857).

<sup>7</sup> Zadok Cramer, p. 103.

<sup>8</sup> Nathaniel Massie, *A Pioneer of Ohio*, pp. 19, 150.

\$2.00 to \$3.00 a bushel. Montezuma, on the Tradewater, was once a prosperous town because of its salt trade.<sup>1</sup> It is worthy of note in this connection that salt sources were eagerly sought by the first settlers as most valuable property, since they yielded a good profit if developed by the owners in person, or a handsome rental if leased. The proprietors of works at Salt Lick Landing, Ky., about 1807, paid annually to the owners from 300 to 500 bushels of salt for the use of the springs.<sup>2</sup> At this time the commodity sold for from \$2.00 to \$3.00 a bushel.

Several years before 1800 the settlers of Ohio made a great effort to introduce the manufacture of salt into that territory. Even before Marietta was founded a few families had been located at salt springs in what is now Trumbull County by certain traders of Pennsylvania. Here they lived in peace and security, tilled the land, and manufactured salt which they sold to the Indians.<sup>3</sup> This product was, therefore, made a means of procuring furs. The squatters, however, were driven out in 1785 by orders of General Harmar.

The principal supply in Ohio during the pioneer days was obtained from Salt Creek, a branch of the Scioto River, where the celebrated Scioto salt works were afterward located; from springs on or near the Muskingum in Muskingum County, and from Morgan County. These places were frequented by pioneer salt-making parties, and later became the seat of a considerable industry. As early as 1794, several of the early settlers who had heard of the springs near the Scioto resolved to find them. Although an Indian war was in progress, the desire was so great to learn the location of the sources that a company was formed to search for them.<sup>4</sup> That the discovery was considered of great importance is indicated by the fact that Mr. Green, one of the partners, sold his interest to a merchant of Philadelphia for \$1,500.<sup>5</sup> Small quantities of salt were made here by individuals on their own account. About 1808 there were twelve or fourteen furnaces in operation producing from

<sup>1</sup> Senate Doc. No. 47, 1st sess., 20th Cong., p. 19; Collins, II, 756.

<sup>2</sup> Thwaites, *Early Western Travels*, IV, 165.

<sup>3</sup> *Western Reserve Hist. Soc. Pub.*, Tract No. 6, pp. 2, 6.

<sup>4</sup> Hildreth, p. 406.

<sup>5</sup> *Ibid.*

50 to 60 bushels a week.<sup>1</sup> In 1812 there were 16 furnaces in this locality having a total capacity of 70 or 80 bushels in twenty-four hours.<sup>2</sup> At this time salt-making was the only industry in that community.<sup>3</sup> The Scioto springs conferred a great benefit upon a large portion of the middle counties of Ohio. The product was transported by packhorses from eighty to a hundred miles. The price, however, continued high, a bushel selling for from \$3.00 to \$4.00 as late as 1808.<sup>4</sup>

The manufacture of salt in the Muskingum Valley was begun about the same time that the springs near the Scioto were first exploited. In 1797 salt imported from the East sold at Marietta by the quart or gallon at the rate of \$8.00 a bushel.<sup>5</sup> Under the stimulus of the high price the settlers began to search for local sources of supply. A party sent out in 1795 failed to find salt water. Feeling seriously the "difficulties under which they labored,"<sup>6</sup> the inhabitants of Marietta held a meeting and again sent out an exploring party of the best hunters and woodsmen. This time their efforts met with success. A company was formed of 50 shareholders, each subscribing \$1.50. The organization was divided into classes of five men each who worked in rotation for two weeks at a time. The works were kept in operation night and day, the men standing regular watches. But even with these exertions the price was reduced only to \$3.00 or \$4.00, and the salt was of "inferior quality much impregnated with bitter water, or muriate of lime."<sup>7</sup> When these salines became the property of the state by the gift of the federal government, they were leased to private parties, and the manufacture on a considerable scale was begun.

The salt trade of the Muskingum was one of the great factors in the early commercial development of Zanesville. About 1826, the

<sup>1</sup> *Ibid.*, pp. 407-8.

<sup>2</sup> *Topographical Description of the State of Ohio, Indiana Territory, etc., by a Late Officer in the U.S. Army* (Cutler) (1812), p. 32.

<sup>3</sup> *Ibid.*

<sup>4</sup> Walker, p. 479; Henry Howe, *Historical Collection*, II, 238 (ed. 1891); Hildreth, pp. 408-9.

<sup>5</sup> Summers, p. 244.

<sup>6</sup> Hildreth, p. 477.

<sup>7</sup> *Ibid.* Cf. also Summers, pp. 52, 53, 113; Walker, p. 123.

product of Muskingum County was estimated at 300,000 bushels annually.<sup>1</sup> In 1837, 500,000 bushels were said to have been manufactured on the Muskingum River between Dresden and Marietta.<sup>2</sup> A large part of this was sent to Zanesville where it was often treated as a cash article and bartered for wheat. Possibly the great attention given to the salt trade led the merchants of that town to neglect other opportunities, and when the Ohio canals were completed, Zanesville suffered a temporary decline owing to the diversion of a portion of her traffic. In this connection, Henry Howe said: "But though Zanesville seems thus favored by nature with all the facilities for manufacturing . . . her citizens have not turned their attention hitherto so much as they might have done in that direction. Their former great advantages in the salt and wheat trade seem, with other causes not necessary to speak of, to have shaped their course differently."<sup>3</sup>

The principal sources of salt in Illinois during the pioneer days were the salines in Gallatin County, but the manufacture was pursued with varying success at other places.<sup>4</sup> The Gallatin County springs were resorted to by the early French inhabitants, and the product was carried to Vincennes whence it was distributed among the traders. The industry was begun on a considerable scale at the time of the settlement of southeastern Illinois by the American migrants, and not only did the commodity supply the settlers in this locality, but shipments were made to western Kentucky and to the Cumberland River region of Tennessee. During the territorial days, the federal government leased the sources to private parties and apparently made an effort to stimulate the manufacture. In this connection, General White

<sup>1</sup> Drake and Mansfield, *Cincinnati in 1826*, p. 11.

<sup>2</sup> W. G. Lyford, *Western Address Directory*, p. 204; Atwater, p. 18.

<sup>3</sup> *Historical Collection of Ohio*, II, 607; in the same connection see Warren Jenkins, *Gazetteer of Ohio* (1837), p. 490, and McClelland and Huntington, *Ohio Canals*, under Zanesville.

<sup>4</sup> Thus salt was manufactured in Jackson County near Brownsville; in Vermilion County near Danville; in Randolph and St. Clair counties, the seat of several of the old French settlements; and in Madison and Bond counties. Cf. *Illinois Geol. Survey*, IV (1870), 22, 189; VI (1875), 216, 232; VII (1875), 31, 38; John Reynolds, *Pioneer History of Illinois*, pp. 110, 140; *Illinois Monthly Magazine*, I, 45; J. M. Peck, *Gazetteer* (1837), p. 17.

of Equality, Ill., said: "In 1809, I was appointed agent on the part of the United States for the works at this place . . . and was advised that the object of the government was to make the greatest possible quantity of salt at as low a price to the consumers as possible; these were the propositions offered by advertisement, and the leases were taken with strong covenants to make as much salt as could be made, and to sell it at a given price, generally 75 cents for a bushel of 50 pounds."<sup>1</sup> Under the financial strain of the War of 1812 the government changed its policy. The object now was to obtain as much rent as possible, and the salt-makers were permitted to charge \$1.25 a bushel. This change of policy introduced new conditions into the manufacture. Another set of men leased the sources for \$50,000 a year under the impression that the water was inexhaustible, and that the advance in price would enable them to pay their rent, and make a handsome profit.<sup>2</sup> Unfortunately, several new features had been overlooked. The cost of manufacture was increasing owing to the consumption of the wood in the immediate vicinity of the springs, and the competition with the works on the Kanawha River was becoming keener than ever before.<sup>3</sup> The demand, however, at one time was great and was "so far beyond the power of the works to supply that applicants for salt coming from Tennessee, Kentucky, Indiana, and elsewhere were regularly ticketed and could be supplied only by waiting their turn."<sup>4</sup> The output of the salines in Gallatin County in 1810 was estimated at 130,000 bushels.<sup>5</sup> In 1827 the product was about 100,000 bushels.<sup>6</sup> At one time upward of 1,000 persons were at work at the salines in Gallatin County, and many miles of wooden pipe line were constructed to convey the brine from the wells to the furnaces.<sup>7</sup> Shawneetown owed much of its early growth to the salt trade.<sup>8</sup> Indeed, a large part of the popula-

<sup>1</sup> *Hunt's Merchant's Magazine*, XXXIX, 431.

<sup>2</sup> *Ibid.*

<sup>3</sup> *Geol. Survey of Illinois*, IV (1870), 264; *Hunt's Merchant's Magazine*, XXXII, 60.

<sup>4</sup> *Geol. Survey of Illinois*, VI (1875), 214.

<sup>5</sup> *Annals of Congress*, p. 2238, Gallatin's report.

<sup>6</sup> Senate Doc. No. 47, 1st sess., 26th Cong., p. 18.

<sup>7</sup> *Pub. of the Illinois State Hist. Lib.*, No. 9, p. 254.

<sup>8</sup> Thwaites, *Early Western Travels*, IV, 271; Reynolds, pp. 100-101; S. R. Brown, *Western Gazetteer*, p. 30.



tion was probably retained in this locality because of the profit derived from this traffic. "This place," said Morris Birbeck, "I account as a phenomenon, evincing the pertinacious adhesion of the human animal to the spot where it once has fixed itself. . . . The Ohio, by its annual overflowings, is unable to wash away the inhabitants of Shawneetown."<sup>1</sup> The earliest American population settled here about 1800. On March 28, 1814, Congress provided that a tract not exceeding two sections in the Illinois territory adjoining Shawneetown should be laid out into town lots.<sup>2</sup> In 1828 the place contained about 100 houses of which five or six were brick.<sup>3</sup>

For years before the American pioneers came to Illinois, the French occupants manufactured salt at a saline in the present Randolph County, and at a place in Missouri a few miles below Ste. Genevieve, called the Saline. At one time or another the settlements at both these springs were exclusively engaged in the manufacture of salt. From these sources were supplied not only the French colonists in Illinois, but many of the frontier posts. The abundance of salt, moreover, made possible the development in the Illinois country of a considerable trade in provisions, and this traffic in turn not only added to the prosperity of French Illinois, but was essential for the welfare of the settlements in lower Louisiana. As early as 1677 the salt resources of Illinois were referred to by Father Allouez, and in 1712, Father Marest, writing from Kaskaskia, said: "Besides the beauty of the place, we also have salt springs in the neighborhood which are of great benefit to us."<sup>4</sup> In 1750 these springs of Illinois supplied "all the salt consumed in the surrounding country and in many of the posts which are dependencies of Canada."<sup>5</sup>

The salines near Ste. Genevieve, Mo., were worked during the French and Spanish occupation and by the Americans until about 1820.<sup>6</sup> In 1700 a few French settlers were located here whose

<sup>1</sup> Quoted from L. C. Beck, *Gazetteer of Illinois and Missouri*, p. 156. But Judge Hall said in his *Letters from the West*: "No place in the western country has been more vilified than Shawneetown."

<sup>2</sup> U.S. Statutes at Large, III, 113.

<sup>3</sup> Judge Hall, p. 221.

<sup>4</sup> Thwaites, *Jesuit Relations*, LX, 163; LXVI, 291.

<sup>5</sup> *Ibid.*, LXIX, 221.

<sup>6</sup> *Geological Survey of Missouri* (1855-71), Broadhead, etc., pp. 302-3.

business was probably to manufacture salt.<sup>1</sup> These sources in later years supplied a wide market. Captain Philip Pittman, writing about 1766, said that "great quantities of salt were manufactured [here] and supplied to the Indians, hunters, and to the various settlements."<sup>2</sup> About 1802, the product was said to have "supplied all Cumberland."<sup>3</sup> Although springs were found in western Kentucky and Tennessee, the scarcity of labor at this time retarded the development of the industry. Salt and lead were for many years the principal exports of Ste. Genevieve. It is possible that the nearness of salt springs was one of the factors, together with the occurrence of lead, involved in the founding of the old village about 1735.

During the Spanish domination in upper Louisiana, and for some years later, there was a small salt settlement on the Meramec River. Referring to this establishment about 1804, Major Amos Stoddard said: "The salt works and mills on its borders are of great advantage to upper Louisiana and to the settlements in the Illinois territory."<sup>4</sup>

The salt-makers preceded the farmers into Howard County, Mo. Springs had been noted here by Lewis and Clark on their way to the Far West, and the knowledge of the sources, in 1807, induced Nathan and Daniel Boone, sons of the celebrated pioneer, to establish themselves with a party of others, in this locality at a place later called Booneslick.<sup>5</sup> During the subsequent years, until about 1860, many of the interior settlements of Missouri were supplied from this source. The surplus was shipped to St. Louis. The first farmers did not come to Howard County until 1811.<sup>6</sup>

<sup>1</sup> "Relation of Pénicaud" in Pierre Margry, *Découvertes et établissements*, etc., V, 407; Louis Houck, *History of Missouri*, I, 277.

<sup>2</sup> *Present State of the European Settlements on the Mississippi* (ed. 1906), p. 95; cf. also Lieutenant Fraser's account in *Indiana Hist. Soc. Pub.*, II, 411, and Thos. Hutchins, *Description topographique*, p. 42.

<sup>3</sup> Thwaites, *Early Western Travels*, III, 280.

<sup>4</sup> *Sketches of Louisiana*, p. 376.

<sup>5</sup> *History of Howard and Cooper Counties, Missouri*, pp. 91, 149; R. A. Campbell, *Gazetteer of Missouri*, p. 242.

<sup>6</sup> Salt was also manufactured by the pioneers in Cooper, Saline, and the adjoining counties in Missouri. Cf. Campbell, p. 781; Beck, pp. 231, 246; H. L. Conrad, *Encyclopaedia of the History of Missouri*, II, 130; V, 475; III, 311, 323; *History of Saline County, Missouri*, p. 121.

In the foregoing sections we have studied the influence of salt upon the policy of the state and federal governments, and its effect on the colonization of the interior. We have yet to consider the growth of the commerce and manufacture of that commodity.

So long as the different sections of the interior did not possess ready communication with each other, the different salt centers continued to supply rather definite areas, and were sought periodically by settlers for miles around. But the decline of the industry in many localities was inevitable as soon as steamboat navigation became a success. The salt sources differed greatly in the strength of their brine and, of course, the cost of manufacture was relatively high at the places where the brine was weak. The comparative advantages of the different sources in this respect is indicated by an analysis of the saline ingredients. At the Kanawha springs, about 1835, 75 gallons of water were required to produce a bushel of salt; near Zanesville, Ohio, 95 gallons were required; at other places on the Muskingum only 50 gallons were needed; but near Shawneetown from 120 to 280 gallons were required, and at Booneslick, Mo., about 450 gallons.<sup>1</sup> Meanwhile, the cost of fuel was becoming an item of great importance, especially at the older sources where the wood in the immediate neighborhood had been consumed. It was found cheaper to convey the brine to the fuel and for this purpose wooden pipe lines were constructed, but this process was a matter of ever-increasing expense. The manufacturers on the Muskingum and Kanawha consumed the coal of the vicinity;<sup>2</sup> but although this fuel was accessible near Shawneetown, and elsewhere in the interior, it does not seem to have been used, at least in any important quantities. The salt-makers along the Kanawha enjoyed not only the advantages of strong brine and cheap fuel, but their facilities were the best for distributing their product and for procuring loans; and, while the producers elsewhere were often in want of laborers, those in western Virginia had the opportunity of employing slaves.<sup>3</sup>

<sup>1</sup> *Hunt's Merchant's Magazine*, VIII, 361. John MacGregor, *Progress of America*, II, 657.

<sup>2</sup> Coal was substituted for wood at Kanawha about 1817. Cf. Thwaites, *Early Western Travels*, X, 226, note.

<sup>3</sup> *Edwardsville* (Illinois) *Spectator*, January 13, 1824, quoting a Virginia paper, said that of 500 laborers employed half were slaves.

The principal feature of the salt trade of the Ohio Valley from 1810 to 1830 was the rise of the manufacture along the Kanawha River. Meanwhile, a number of less-favored sources were abandoned and the Virginia producers began to exercise a large control over the market. According to the census of 1810, 24,000 bushels of salt were produced in Ohio, 150,000 at the "United States salt works" in Illinois, and 324,870 bushels in Kentucky. The product of Virginia amounted to 740,000.<sup>1</sup> Prior to 1796, the settlements in western Pennsylvania secured their supply from east of the mountains, but about this time the discovery was made that by shipping provisions, whiskey, and castings to western New York, Onondaga salt could be procured at about half the price of that brought from the East.<sup>2</sup> During the years from 1800 to 1812 western Pennsylvania and the adjacent region of Ohio drew a supply from this source, although, at the latter date, Kanawha salt was beginning to come into the Pittsburgh market.<sup>3</sup> In 1800, about 720 barrels of salt arrived at Erie from Onondaga. The receipts increased to 2,730 barrels in 1803; to 7,580 barrels in 1805; and to 14,340 in 1809.<sup>4</sup> The value of New York salt brought into the Pittsburgh market was estimated by Zadok Cramer in 1810 at \$40,000.<sup>5</sup> Since the exports of provisions, etc., were about equal in amount, the business of that city directly related to salt was a large part of the "passing domestic trade" which was estimated by Cramer at about one million dollars. This commerce was cut off during the War of 1812. The failure of this supply stimulated the industry on the Kanawha and was one of the principal causes of the introduction of the manufacture of salt on the Conemaugh and Kiskiminitas.<sup>6</sup> In August, 1810, there were eleven furnaces on the Kanawha, each containing 60 kettles and making about 400 bushels of salt a day.<sup>7</sup> In 1815 there were 52 furnaces in the

<sup>1</sup> *Niles' Register*, VI, 210, 330, 395.

<sup>2</sup> Cramer, *Navigator*, 1811, p. 20; Thurston, pp. 98-99; *Johns Hopkins University Studies*, XXI, 36.

<sup>3</sup> Cramer, p. 20; T. Flint, *Recollections*, p. 24.

<sup>4</sup> Cramer, quoting figures obtained from the collector of the port at Erie.

<sup>5</sup> Cramer, p. 71.

<sup>6</sup> Bishop, II, 192; House Doc. No. 55, 1st sess., 21st Cong., p. 32.

<sup>7</sup> Cramer, p. 95.

same region, the total daily capacity of which was from 2,500 to 3,000 bushels.<sup>1</sup>

By 1820 the Kanawha had become the largest salt-producing region west of the mountains, the annual product probably exceeding that of all the other works of the Ohio Valley taken together. The total amount of capital then invested was \$696,000.<sup>2</sup> At the same time the amount of capital invested in Indiana, Westmoreland, and Armstrong counties in Pennsylvania was \$31,500. In the counties of Muskingum, Morgan, Jackson, and Guernsey, Ohio, the total capital amounted to \$51,000, the greater portion of which was employed in the county first named. In Illinois, Bond County was the only one reported, the investment amounting to \$1,200. The omission in this census of the works near Shawneetown was of course an error, since from other sources of information we learn that the output about this time was upward of 130,000 bushels annually.<sup>3</sup> In Missouri, Howard and Cooper counties were reported with a total capital of \$15,500.

During the decade from 1821 to 1830 the manufacturers of the Kanawha strengthened their control over the salt market of the interior, and because of this competition the industry in the region west of Ohio declined in importance. In the meantime, greater attention was given to the salt supply because of the growth of the western packing business. In some quarters the belief existed that the Kanawha producers were using their superior advantages to keep up the price, and an attempt was made to obtain a lower tariff in the hope of securing foreign competition.<sup>4</sup> In 1828, there was "great excitement" in several counties of Kentucky "caused by the Kanawha salt monopoly."<sup>5</sup> Public meetings were held at which the western consumers were urged to decline to buy Kanawha salt, and to encourage the importation of a supply from Onondaga,

<sup>1</sup> *Niles' Register*, VIII, 135.

<sup>2</sup> U.S. Census 1820 (not paged). It is to be remarked that this census was noted for its inaccuracy.

<sup>3</sup> Beck, pp. 68-69; H. R. Schoolcraft, *Travels*, pp. 200-203; *Edwardsville* (Illinois) *Spectator*, October 26, 1824.

<sup>4</sup> Cf. evidence collected by Benton in Senate Doc. 196, 1st sess., 26th Cong.

<sup>5</sup> Collins, I, 34.

or even from foreign countries. During this period, Senator Thomas H. Benton undertook the burden of securing the removal of the salt duty.<sup>1</sup> A small tax was imposed on that commodity by the act of 1789, as a revenue measure, and the rate was changed at various times and removed entirely in 1807 upon the recommendation of President Jefferson.<sup>2</sup> A duty of 20 cents was imposed in 1813 "to continue during the war and for one year after and no longer." The tax, however, was not removed, but was lowered in 1828, and the act of 1833 made it subject to periodical reductions. The manufacturers of Kanawha protested against the reduction. They insisted that foreign salt brought to New Orleans as ballast could be delivered in the Ohio Valley at a figure lower than their cost of production, since the steamboats with light up-river cargoes were willing to transport it at a low rate. As a result, the industry would be ruined. However sound this reasoning may have appeared, there does not seem to have been any danger from that direction. There was no startling increase in the importation at New Orleans after the reduction. In 1820, 112,000 bushels were brought in at that port; in 1828, 230,000 bushels; in 1830, 362,700 bushels, and in 1835, 310,000 bushels.<sup>3</sup> At least a portion of this was retained in New Orleans to repack some of the meat sent down from the upper country.<sup>4</sup> From the consumer's point of view there was great need of an abundance of pure salt. The product of the interior contained impurities which it was claimed injured meat, especially that transported through warm climates. It was urged that even Kanawha salt was not free from serious defects.<sup>5</sup> Many of the packers were anxious to procure the imported article. Moreover, it was maintained that the Kanawha manufacturers controlled the supply and manipulated the price. This the producers admitted, but urged that the control was necessary to

<sup>1</sup> Cf. Meigs, *Life of Thomas Hart Benton*, chapter on salt.

<sup>2</sup> Senate Doc. No. 196, 1st sess., 26th Cong., p. 98.

<sup>3</sup> *Ibid.*, pp. 92-93.

<sup>4</sup> *DeBow's Commercial Review*, XXIII, 158; Cong. Debates, VII, Pt. II, 134.

<sup>5</sup> *Edwardsville (Illinois) Spectator*, November 7 and December 5, 1820; *Illinois Monthly Magazine*, I, 45; *DeBow's Commercial Review*, XXIII, 133.

protect their industry from destruction.<sup>1</sup> The result of the contest was that Benton failed to have the duty removed; but the industry in western Virginia and Ohio continued to prosper even under the system of periodic reductions of the tariff.

According to information collected in response to a resolution in the House of Representatives February 21, 1829, there were 73 works on the Kanawha producing annually 925,000 bushels; 85 in Ohio producing 426,350 bushels; 19 in Kentucky with an output of 137,320 bushels. There were four works in Indiana. The output of Illinois was 138,000 bushels. The product of the sources along the Conemaugh, Kiskiminitas, and Allegheny rivers was estimated at 750,000 bushels from 38 works.<sup>2</sup> The total amount of salt produced in the United States at this time was 3,804,000 bushels.

The next two decades were noted for a further concentration of the industry in western Virginia and Pennsylvania and on the Muskingum in Ohio, and for the decline of the salt industry in the region west of Ohio. In the census year 1840, only 20,000 bushels were produced in Illinois, 13,150 bushels in Missouri, and 6,400 in Indiana.<sup>3</sup> The condition of the industry in these states was about the same in 1850.<sup>4</sup>

Another notable change was brought about by the construction of the Ohio canals, the result of which was to stimulate the industry along the Muskingum and Hocking rivers.<sup>5</sup> In 1840, the total product of Ohio had declined to 297,350 bushels,<sup>6</sup> but during the

<sup>1</sup> The testimony was as follows: "In 1827," said a committee of the manufacturers, "owing to the rapid and ruinous depreciation in the price of salt, the manufacturers, with a view of restoring the price and bringing the quantity made within the demand, restricted themselves to the production of 10,000 bushels to the furnace." This plan failed; then a new arrangement was tried. A part of the furnaces when there were more than one on the same property were suffered to remain idle and the aggregate quantity of all made on the others which were kept in operation during the whole year." Cf. House Doc. No. 55, 1st sess., 21st Cong., p. 31.

<sup>2</sup> House Doc. No. 55, 1st sess., 21st Cong., pp. 6, 9, 56. Cf. similar report in Senate Doc. No. 196, 1st sess., 26th Cong., pp. 66-68.

<sup>3</sup> *Compendium of the Sixth Census*, pp. 287, 299, 311.

<sup>4</sup> House Exec. Doc. No. 36, 1st sess., 33d Cong., pp. 3-5.

<sup>5</sup> McClelland and Huntington, p. 132.

<sup>6</sup> *Compendium of the Sixth Census*, pp. 275, 276.

next decade the output increased to 550,000 bushels. Of this Muskingum and Morgan counties along the Muskingum River reported 139,000 and 158,000 bushels respectively, and Athens County through which the Hocking flows reported 206,000 bushels.<sup>1</sup> This change is seen from another point of view. In 1839, there were shipped from Cleveland on the canal 109,916 barrels of New York salt of which about 35,000 were left above Roscoe and 75,000 below that point. Five years later, only 44,320 barrels were shipped by the canal from Cleveland, of which only 10,000 were delivered below Roscoe.<sup>2</sup>

After 1830 the demand for salt greatly increased owing particularly to the development of meat-packing at Cincinnati and at many other places in the interior, and the quantity of the product at the great sources now increased to meet the new needs. The changes in the quantity produced in the Ohio Valley from 1810 to 1860 may be summarized as follows:

ANNUAL PRODUCTION OF SALT IN BUSHELS AT SPECIFIED DATES  
FROM 1810 TO 1860

	1810	1829*	1840	1850	1860††
Kanawha County					
Virginia.....	740,000	925,000	1,600,000	3,024,890¶	2,076,513**
Western					
Pennsylvania..	†	750,000‡	546,868§	606,670	1,011,800††
Ohio.....	24,000	426,350	297,350	550,350	1,743,200
Kentucky.....	324,870	137,320	219,695	246,500	169,665
Indiana.....	†	†	6,400	†	†
Illinois.....	150,000	138,000	20,000	20,000	35,000
Missouri§§.....	†	†	13,150	†	†

\* The census of 1820 in most instances gives only the capital invested.

† Not reported.

‡ Probably estimated too high. Cf. Senate Doc. 196, p. 66, formerly cited.

§ Includes Allegheny, Westmoreland, Indiana, and Armstrong counties.

|| Includes Allegheny, Westmoreland, and Armstrong counties. The total for the state was 519,100 bushels or 90,770 barrels.

¶ The total for the state was 3,479,890.

\*\* Included the whole product from Virginia. Of the fourteen works in the state, nine were located in Kanawha County.

†† Includes all of Pennsylvania. All but a small amount was produced in Allegheny, Westmoreland, and Armstrong counties.

‡‡ Of the total product for 1860, 59 per cent, or 7,521,335 bushels, were produced in New York

§§ Small quantities of salt were produced in Missouri at all these periods. References for the above have been given in the foregoing account.

<sup>1</sup> *Ibid.*, p. 275.

<sup>2</sup> McClelland and Huntington, p. 132.



The table indicates the increasing concentration of the industry in western Virginia and Pennsylvania and Ohio where the advantages were greatest. The manufacture was of little importance in the states west of Ohio after 1830, although springs were worked in a number of localities to supply a local demand. With the lowering of freight rates and the exhaustion of the fuel near the sources, the industry in these places was brought to an end.

ISAAC LIPPINCOTT

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